Amendments to the Drawings:

The attached sheet of drawings includes a change
to Fig. 1. This sheet, which includes Fig. 1-2, replaces
the original sheet including Fig. 1-2. In Figure 1,
previously omitted reference numeral 9 has been added.

Attachment: Replacement Sheet
             Annotated Sheet Showing Changes

REMARKS

In view of both the amendments presented above and the following discussion, the Applicants submit that none of the claims now pending in the application is anticipated under the provisions of 35 USC § 102. Thus, the Applicants believe that all of these claims are now in allowable form.

If, however, the Examiner believes that there are any unresolved issues requiring adverse final action in any of the claims now pending in the application, the Examiner should telephone Mr. Peter L. Michaelson, Esq. at (732) 530-6671 so that appropriate arrangements can be made for resolving such issues as expeditiously as possible.

Specification amendments

Various amendments have been made to the specification to correct minor inadvertent grammatical and formal errors.

Drawings

The Applicants have discovered that reference numeral 9 has been inadvertently omitted from Figure 1. To correct this error, the Applicants have enclosed a drawing sheet for this figure showing their proposed correction in red, as well as a substitute drawing sheet that contains this correction.

The Applicants now request entry of the substitute sheet.

Status of claims

Independent claims 1, 11 and 12 have each been amended to include the limitations of prior claim 9. Claim 9 has now been canceled.

Each of dependent claims 2-8, 10 and 13 has been amended to correct minor errors.

Rejection under 35 USC § 102(e)

The Examiner has rejected claims 1-13 under the provisions of 35 USC § 102(e) as being anticipated by the teachings in the Kracht patent (US patent 6,377,987 issued April 23, 2002 to James E. Kracht). With respect to the claims as they now stand, this rejection is respectfully traversed. To simplify the ensuing discussion, this rejection will be specifically discussed in the context of present claim 1.

Specifically, and of most pertinence, the Examiner takes the opinion that the Kracht patent discloses all the elements of claims 1 and 9, as they stood prior to this amendment. With respect to present claim 1, which is formed of the limitations of prior claims 1 and 9, the Examiner's view is incorrect.

Generally speaking, the Kracht patent addresses a technique for discovering and identifying network devices and then determining the physical topology of a network containing those devices. In particular, this patent describes the use of the Cisco Discovery Protocol (CDP) in

determining physical network topology and describes a
particular technique that can be used to detect network
devices which do not support CDP. Such devices are referred
to as "black cloud" devices and are clearly identified as
such in a resulting displayed network tree (see, e.g.,
Figure 8 in this patent).

The present application also generally relates to
determining the topology of a network and also uses data
relating to discovered devices on the network to build a
network tree. Generally, when network topologies are
conventionally determined, the presence of unsupported or
unmanaged connecting network devices may cause some network
branches to be unresolved. The present invention
advantageously attempts to remedy this deficiency, thus
increasing the accuracy of the resulting network map over
that produced through conventional techniques.
Specifically, the present invention attempts to determine
the type of each discovered network device on the unresolved
branch. If the type of every such device on a branch is
determined to be an endstation type, then the present
invention determines that an undiscovered connecting device
is present on that particular branch and that device,
heretofore missing, is flagged as such in the network tree.

Through the inventive technique, unresolved
branches are separated into two types: (a) those in which
every discovered network device on an unresolved branch is
determined to be an endstation type, and (b) those in which
at least one of the discovered devices on the unresolved
branch is not an endstation type. Should the latter occur,

the branch is left unresolved and is so indicated in the network tree.

The concept of leaving a unresolved branch as such in a network tree is simply <u>not</u> taught or even suggested by the teachings in the Kracht patent -- contrary to the Examiner's view.

In that regard, the Examiner points to col. 16, lines 50-57 in the Kracht patent as evidencing disclosure of this concept. However, close examination of this passage of the text reveals otherwise. This passage states as follows:

> "In the link processing phase, at block 908, the process *discards any information that has been collected for incorrectly identified known devices.* For example, the process identifies those known devices that are associated with a broadcast address, associated with an address that has been assigned to the network itself, or associated with multiple IP addresses thus causing duplicate configuration information has been collected [sic] for the known device." [emphasis added]

As the Examiner can appreciate, this passage merely describes, consistent with the legend in block 908 in Figure 9, that network information for incorrectly identified devices is discarded, i.e. eliminated. This has absolutely nothing to do with leaving a branch, which has been determined to have a non-endstation type device, unresolved. As is plainly clear, nowhere in this passage is the word "branch" even mentioned or can reasonably be inferred from the text in the passage.

To further support the Applicants' view of this
passage, the Applicants point to col. 9, lines 14-34 of the
Kracht patent which disclose instances in which the
discovery mechanism, taught in this patent, may mistakenly
identify devices and thus lead to discarded network
information. First, since a router may have multiple IP
addresses, the mechanism may mistakenly associate two or
more IP addresses, for a router, with separate known devices
rather than with the single router. Second, the mechanism
may mistakenly determine an initial set of IP addresses as
not including all IP addresses that are actually associated
with a particular network device, e.g. a router.
Furthermore, the Examiner's attention is also directed to
col. 11, lines 15-26 of this patent which teaches that after
the discovery mechanism completes an "information-gathering"
phase, it then enters a "link processing" phase during which
it discards any of its previously collected network
information which it determines to be incorrect or false.
In that regard, col. 11, lines 18-25 expressly state:

> "For example, configuration information that was
> collected based on a device responding to a network or
> broadcast address may be discarded, because these
> devices will have been discovered under their real IP
> addresses. Also, duplicate configuration information
> that was collected for devices having multiple IP
> addresses, such as routers, may be discarded as these
> generally will have been discovered multiple times."

Thus, in sharp distinction to the Examiner's view,
the Kracht patent is totally <u>devoid</u> of any teachings
regarding leaving, in a network topology, a network branch
unresolved where that branch has a device which is not an
endstation type.

Claim 1, as it now stands, contains suitable recitations directed to this distinguishing feature. Specifically, this claim states as follows, with that recitation shown in a bolded typeface:

> "A method for determining the topology of a network when a network tree, built from data relating to discovered devices of the network, includes one or more unresolved branches, the method comprising:
> for each unresolved branch of the network tree, attempting to determine the type of each of the discovered network devices on the branch[, and];
> if the type of each discovered network device on the branch is determined to be an endstation type, inferring that an undiscovered connecting device is present on the branch; and
> **if the type of at least one discovered network device on the branch is not an endstation type, leaving the topology of the branch unresolved.**" [emphasis added]

Hence, the Applicants submit that inasmuch as this claim is not identically disclosed by the teachings in the Kracht patent, this claim is not anticipated by those teachings. Accordingly, this claim is patentable under the provisions of 35 USC § 102(e).

Similar distinguishing recitations appear in each of the Applicants' other independent claims, namely claims 11 and 12. Consequently, the Applicants submit that each of these claims is also not anticipated by and thus patentable over the teachings in the Kracht patent.

Each of dependent claims 2-8, 10 and 13 recites further distinguishing features of the present invention and depends, either directly or indirectly, from either independent claims 1 or 12. Accordingly, each of these

dependent claims is not anticipated by the teachings of the Kracht patent for the exact same reasons set forth above. Hence, these claims are also patentable under the provisions of 35 USC § 102(e).

Conclusion

Thus, the Applicants submit that none of the claims, presently in the application, is anticipated under the provisions of 35 USC § 102.

Consequently, the Applicants believe that all these claims are presently in condition for allowance. Accordingly, both reconsideration of this application and its swift passage to issue are earnestly solicited.
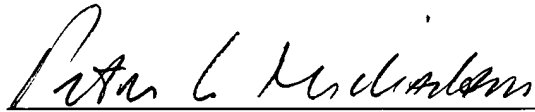
Respectfully submitted,

June 8, 2005

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Appl. No. 10/054,422
Amdt. dated June 8, 2005
Reply to Office action of Feb. 10, 2005

CERTIFICATE OF MAILING under 37 C.F.R. 1.8(a)

I hereby certify that this correspondence is being deposited on **June 9, 2005** with the United States Postal Service as first class mail, with sufficient postage, in an envelope addressed to the Mail Stop Amendment, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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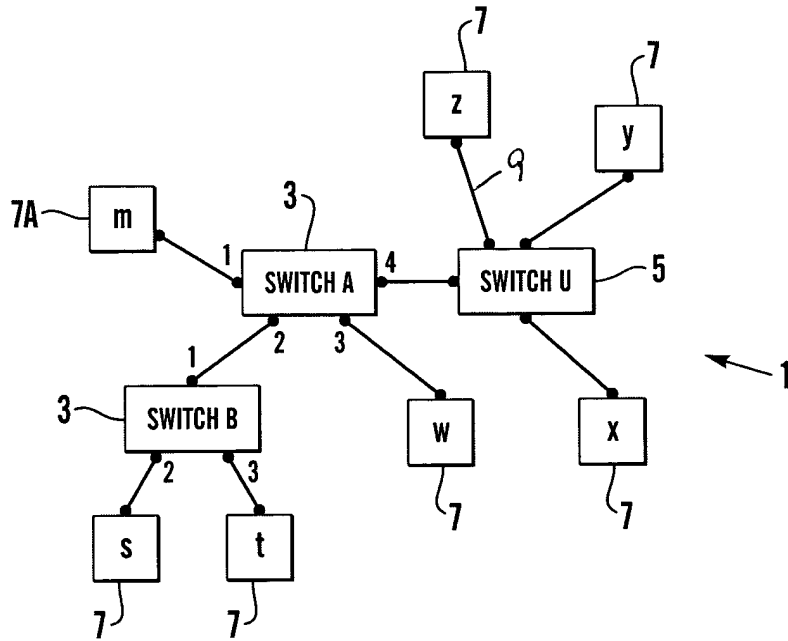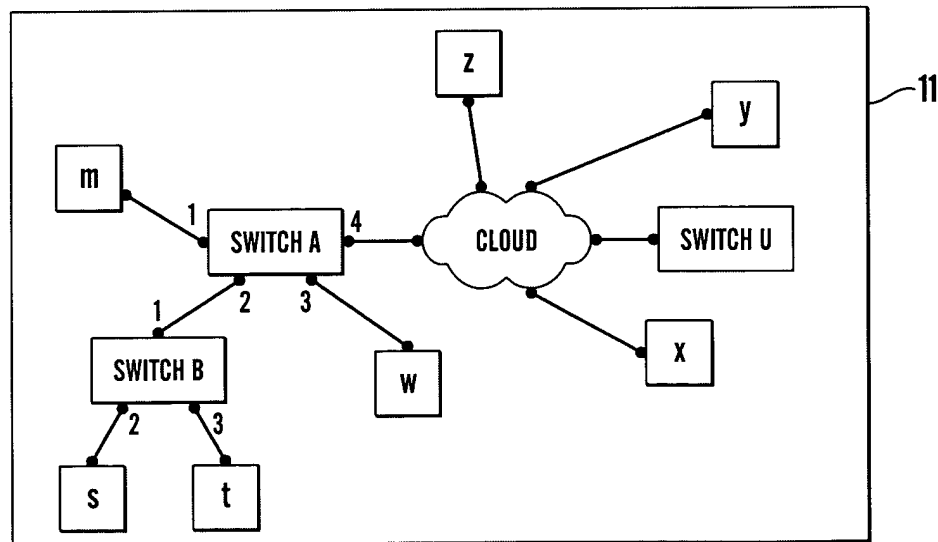Signature   Reg. No.

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Fig.1

Fig.2